CLEAN VERSION OF PENDING CLAIMS

2. The cloning system of claim 16, wherein any or all open reading frames constituting E4 have been modified in the backbone plasmid.

3. The cloning system of claim 2, wherein the modification is a substitution, insertion, or deletion of one or more nucleotides.

4. The cloning system of claim 16, wherein E3 has been modified in the backbone plasmid.

5. The cloning system of claim 4, wherein the modification is a substitution, insertion, or deletion of one or more nucleotides.

6. The cloning system of claim 4, wherein E3 has been modified to contain a multiple cloning site.

7. The cloning system of claim 4, wherein one or more genes required for Herpes Simplex Virus (HSV) packaging and an HSV origin of replication have been placed within the E3 region.

8. (Amended) The cloning system of claim 16, wherein the backbone plasmid further consists of HSV Amplicon sequences required for packaging and replication.

10. (Amended) The cloning system of claim 16, wherein the backbone plasmid further consists of one or more sequences that allow for integration of sequences into cells after viral infection.

11. (Amended) A shuttle plasmid consisting of Ad sequences from 0 to 1 and 9.2 to 16.1 map units of an Ad genome.

12. (Amended) The shuttle plasmid of claim 11, further consisting of PacI restriction endonuclease sites flanking either end of the Ad sequences.

13. (Amended) The shuttle plasmid of claim 11, further consisting of a multiple cloning site positioned between 1 and 9.2 map units.

14. (Amended) The shuttle plasmid of claim 11, further consisting of a sequence encoding a gene of interest.

15. (Amended) The shuttle plasmid of claim 11, further consisting of a promoter, or other sequence used to drive expression from a transgene.

16. (Amended) A cloning system for generating recombinant adenovirus comprising:
(a) an Ad backbone plasmid consisting of an Ad genome lacking map units 0 to 9.2, wherein the numbering of the map units starts with the lefthand ITR and wherein the backbone plasmid lacks a loxP sequence, and
(b) a shuttle plasmid consisting of Ad sequences from 0 to 1 map units and 9.2 to 16.1 map units of an Ad genome.

17. (Amended) A host cell comprising:
(a) an Ad backbone plasmid consisting of an Ad genome lacking map units 0 to 9.2, wherein the numbering of the map units starts with the lefthand ITR, and
(b) a shuttle plasmid consisting of Ad sequences from 0 to 1 map units and 9.2 to 16.1 map units of an Ad genome.

18. The host cell of claim 17, wherein the cell expresses E1 sequences necessary for supporting adenovirus replication.

19. A host cell of claim 18, wherein the cell is an animal cell.

20. A host cell of claim 17, wherein the cell expresses E1 sequences, pIX and E4 sequences required for amplification of viruses generated made with the Ad backbone lacking E1, E1 and pIX, or E1 and E4, respectively.

21. A host cell of 20, wherein the cell is an animal cell.

22. (Amended) A method for producing recombinant adenovirus comprising contacting a host cell with

(a) an Ad backbone plasmid consisting of an Ad genome lacking map units 0 to 9.2, wherein the numbering of the map units starts with the lefthand ITR, and

(b) a shuttle plasmid consisting of Ad sequences from 0 to 1 map units and 9.2 to 16.1 map units of an Ad genome.

23. The method of claim 22, further comprising serially amplifying virus produced by the host cell.

24. The method of claim 23, further comprising detecting the presence of wild type virus.

25. (Amended) The method of claim 22, wherein the shuttle plasmid further consists of a sequence encoding a gene of interest.

26. (NEW) The shuttle plasmid of claim 11, wherein any or all open reading frames constituting E4 have been modified in the backbone plasmid.

27. (NEW) The shuttle plasmid of claim 26, wherein the modification is a substitution, insertion, or deletion of one or more nucleotides.

28. (NEW) The shuttle plasmid of claim 11, wherein E3 has been modified in the backbone plasmid.

29. (NEW) The shuttle plasmid of claim 28, wherein the modification is a substitution, insertion, or deletion of one or more nucleotides.

30. (NEW) The shuttle plasmid of claim 28 wherein E3 has been modified to contain a multiple cloning site.

31. (NEW) The shuttle plasmid of claim 28, wherein one or more genes required for Herpes Simplex Virus (HSV) packaging and an HSV origin of replication have been placed within the E3 region.

32. (NEW) The shuttle plasmid of claim 11, further consisting in the backbone plasmid HSV Amplicon sequences required for packaging and replication.

33. (NEW) The shuttle plasmid of claim 11, further consisting in the backbone plasmid one or more sequences that allow for integration of sequences into cells after viral infection.

34. (NEW) The shuttle plasmid of claim 16, further consisting of PacI restriction endonuclease sites flanking either end of the Ad sequences.

35. (NEW) The shuttle plasmid of claim 16, further consisting of a multiple cloning site positioned between 1 and 9.2 map units.

36. (NEW) The shuttle plasmid of claim 16, further consisting of a sequence encoding a gene of interest.

37. (NEW) The shuttle plasmid of claim 16, further consisting of a promoter, or other sequence used to drive expression from a transgene.

38. (NEW) The host cell of claim 17, wherein the shuttle plasmid further consists of PacI restriction endonuclease sites flanking either end of the Ad sequences.

39. (NEW) The host cell of claim 17, wherein the shuttle plasmid further consists of a multiple cloning site positioned between 1 and 9.2 map units.

40. (NEW) The host cell of claim 17, wherein the shuttle plasmid further consists of a sequence encoding a gene of interest.

41. (NEW) The host cell of claim 17, wherein the shuttle plasmid further consists of a promoter, or other sequence used to drive expression from a transgene.

42. (NEW) The host cell of claim 17, wherein any or all open reading frames constituting E4 have been modified in the backbone plasmid.

43. (NEW) The host cell of claim 42, wherein the modification is a substitution, insertion, or deletion of one or more nucleotides.

44. (NEW) The host cell of claim 17, wherein E3 has been modified in the backbone plasmid.

45. (NEW) The host cell of claim 44, wherein the modification is a substitution, insertion, or deletion of one or more nucleotides.

46. (NEW) The host cell of claim 44, wherein E3 has been modified to contain a multiple cloning site.

47. (NEW) The host cell of claim 44, wherein one or more genes required for Herpes Simplex Virus (HSV) packaging and an HSV origin of replication have been placed within the E3 region.

48. (NEW) The host cell of claim 17, further consisting in the backbone plasmid HSV Amplicon sequences required for packaging and replication.

49. (NEW) The host cell of claim 17, further consisting in the backbone plasmid one or more sequences that allow for integration of sequences into cells after viral infection.

50. (NEW) The method of claim 22, wherein the shuttle plasmid further consists of PacI restriction endonuclease sites flanking either end of the Ad sequences.

51. (NEW) The method of claim 22, wherein the shuttle plasmid further consists of a multiple cloning site positioned between 1 and 9.2 map units.

52. (NEW) The method of claim 22, wherein the shuttle plasmid further consists of a promoter, or other sequence used to drive expression from a transgene.

53. (NEW) The method of claim 22, wherein any or all open reading frames constituting E4 have been modified in the backbone plasmid.

54. (NEW) The method of claim 53, wherein the modification is a substitution, insertion, or deletion of one or more nucleotides.

55. (NEW) The method of claim 22, wherein E3 has been modified in the backbone plasmid.

56. (NEW) The method of claim 55, wherein the modification is a substitution, insertion, or deletion of one or more nucleotides.

57. (NEW) The method of claim 55, wherein E3 has been modified to contain a multiple cloning site.

58. (NEW) The method of claim 55, wherein one or more genes required for Herpes Simplex Virus (HSV) packaging and an HSV origin of replication have been placed within the E3 region.

59. (NEW) The method of claim 22, wherein the backbone plasmid further consists of HSV Amplicon sequences required for packaging and replication.

60. (NEW) The method of claim 22, wherein the backbone plasmid further consists of one or more sequences that allow for integration of sequences into cells after viral infection.